COMPLETE LISTING OF CLAIMS
IN ASCENDING ORDER WITH STATUS INDICATOR

1. (Currently Amended) A composition comprising an expression vector bound to an aggregated protein-polycationic polymer conjugate which forms a DNA particulate composition, wherein the expression vector comprises a promoter polynucleotide sequence operatively linked to a polynucleotide sequence encoding an antigen.

2. (Original) The composition of claim 1 wherein the polynucleotide sequence encoding the antigen is a fragment of a genome or gene selected from the group of genomes or genes associated with a disease consisting of infectious disease, cancer, and autoimmune disease.

3. (Original) The composition of claim 2 wherein the polynucleotide sequence encoding the antigen is a fragment of a genome or gene selected from the group of pathogenic genomes consisting of virus, bacterium, fungus and protozoa.

4. (Original) The composition of claim 3 wherein the polynucleotide sequence encoding the antigen is a fragment of a genome selected from the group of viral genomes consisting of HIV, HSV, HCV, influenza and RSV.

5. (Canceled)

6. (Original) The composition of claim 1 wherein the aggregated protein is albumin.

7. (Original) The composition of claim 1 wherein the polycationic polymer is selected from the group consisting of polyamino acids, polyimines or a combination thereof.

8. (Original) The composition of claim 7 wherein the polyimine is polyethyleneimine.

9. (Original) The composition of claim 1 wherein the expression vector contains a heterologous mammalian targeting sequence.

10. (Original) The composition of claim 9 wherein the heterologous mammalian targeting sequence is ubiquitin or a signal sequence for secretion.

11. (Original) The composition of claim 10 wherein the signal sequence for secretion is human growth hormone.

12. (Currently amended) A method of producing a DNA particulate composition comprising the step of incubating an expression vector with an aggregated protein-polycationic polymer conjugate to form the DNA particulate composition ~~particles~~ wherein the expression vector comprises a promoter polynucleotide sequence operatively linked to a polynucleotide sequence encoding an antigen.

13. (Original) The method of claim 12 wherein the polynucleotide sequence encoding the antigen is a fragment of a genome or gene selected from the group of genomes or genes associated with a disease consisting of infectious disease, cancer, and autoimmune disease.

14. (Original) The method of claim 13 wherein the polynucleotide sequence encoding the antigen is a fragment of a genome selected from the group of pathogenic genomes consisting of virus, bacterium, fungus and protozoa.

15. (Original) The method of claim 14 wherein the polynucleotide sequence encoding the antigen is a fragment of a genome selected from the group of viral genomes consisting of HIV, HSV, HCV, influenza and RSV.

16. (Canceled)

17. (Original) The method of claim 12 wherein the expression vector contains a heterologous mammalian targeting sequence.

18. (Original) The method of claim 17 wherein the heterologous mammalian targeting sequence is ubiquitin or a signal sequence for secretion.

19. (Original) The method of claim 18 wherein the signal sequence for secretion is human growth hormone.

20. (Original) The method of claim 12 wherein the polycationic polymer is selected from the group consisting of polyamino acids, polyimines or a combination thereof.

21. (Original) The method of claim 19 wherein the polyimine is polyethyleneimine.

22. (Original) The method of claim 12 wherein the aggregated protein is albumin.

23. Cancel

24. Cancel

25. Cancel

26. Cancel

27. Cancel

28. (Currently amended) A method of inducing an immune response in a mammal comprising the step of administering to the mammal an expression vector bound to an aggregated protein-polycationic polymer conjugate which forms a DNA particulate composition wherein the expression vector comprises a promoter polynucleotide sequence operatively linked to a polynucleotide sequence encoding an antigen.

29. (Original) The method of claim 28 wherein the immune response is systemic.

30. (Original) The method of claim 28 wherein the immune response is mucosal.

31. (Original) The method of claim 28 wherein the immune response is both systemic and mucosal.

32. (Currently amended) A method of inducing an immune response in a mammal comprising the step of co-administering to the mammal two expression vectors, both bound

to an aggregated protein-polycationic polymer conjugate which forms DNA particulate compositions wherein the first expression vector comprises a promoter polynucleotide sequence operatively linked to a polynucleotide sequence encoding an antigen and the second vector comprises a cytokine ~~expression vector~~ polynucleotide sequence.

33. (Currently amended) The method of claim 32 wherein the cytokine polynucleotide sequence~~expression vector~~ contains the sequence for GM-CSF.

34. (Currently amended) The method of claim 32 wherein the cytokine polynucleotide sequence ~~expression vector~~ contains the sequence for IL12.

35. (Original) The method of claim 32 wherein the co-administration is to a mucosal surface.

36. (Original) The method of claim 35 wherein the mucosal surface is selected from the group consisting of intranasal surface, oral surface, gastrointestinal surface and genitourinary tract surface.

37. (Original) The method of claim 32 wherein the co-administration is parenterally.

38. (Original) The method of claim 37 wherein the administration is intramuscular and intradermal.

39. (Currently amended) A method of inducing an immune response in a mammal comprising the step of administering to the mammal an expression vector bound to an aggregated protein-polycationic polymer conjugate which forms a DNA particulate composition wherein the expression vector comprises a first promoter polynucleotide sequence operatively linked to a first polynucleotide sequence encoding an antigen and a second polynucleotide sequence encoding a cytokine.

40. (Original) The method of claim 39, wherein the first and second polynucleotide sequences are under transcriptional control of the same promoter polynucleotide sequence.

41. (Original) The method of claim 39, wherein the first and second polynucleotide sequences are under transcriptional control of different promoter polynucleotide sequences.

42. (Currently Amended)A method of introducing genes into a cell comprising the steps of: forming a DNA ~~particle~~ particulate composition comprising an expression vector bound to an aggregated protein-polycationic polymer conjugate wherein the expression vector comprises a promoter polynucleotide sequence operatively linked to a polynucleotide sequence encoding an antigen; and incubating the cells with the DNA ~~particle~~ particulate composition under conditions wherein the cells take in the DNA ~~particle~~particulate composition.

Claims 43-57 (Canceled)